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# Interest Rate Regulation, Credit Creation and Economic Growth of Nigeria

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**Abstract**

This study examines the impact of interest rate regulation and credit creation on economic growth in Nigeria for the period 1980–2023. Employing the Autoregressive Distributed Lag (ARDL) model, the study investigates both the long-run and short-run dynamics among real gross domestic product (RGDP), interest rate (INTR), credit creation (proxied by broad money supply as a percentage of GDP, M3/GDP), and exchange rate (EXCH). The results reveal that in the long run, interest rate regulation and credit creation exert positive and significant effects on economic growth, indicating that appropriate regulation of lending rates and financial deepening foster output expansion. Exchange rate stability was also found to support long-run growth. However, the short-run estimates suggest that fluctuations in credit creation and exchange rate volatility negatively affect economic performance, while past values of RGDP contribute positively to current growth, reflecting growth persistence. The error correction term was negative and statistically significant, confirming the existence of a long-run equilibrium relationship among the variables with an adjustment speed of 11.6% annually. The findings underscore the importance of stable monetary regulation and efficient credit allocation in driving sustainable growth in Nigeria. It is therefore recommended that policymakers strengthen interest rate regulation to encourage investment, channel credit to productive sectors, and implement measures to mitigate short-run instability in credit and exchange rate management.

**Keywords:** *Interest rate regulation, Credit creation, Economic growth, Exchange rate, ARDL, Nigeria*

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**Background to the Study**

The role of financial intermediation in fostering economic growth has remained a central theme in development economics (Levine, 2005). Banks, through the process of credit creation, mobilize savings and channel funds to productive investments, thereby stimulating economic activities (Schumpeter, 1911; Gurley & Shaw, 1960). However, the extent to which credit creation contributes to economic growth is often influenced by the regulatory framework governing interest rates (Nwankwo, 2013). In most developing countries, including Nigeria, interest rate regulation has been a critical policy instrument used by the government and monetary authorities to promote investment, control inflation, and influence the direction of credit allocation (Central Bank of Nigeria [CBN], 2019).

Historically, Nigeria has experienced alternating regimes of interest rate control (Akinlo&Akinlo, 2009). Prior to the introduction of the Structural Adjustment Programme (SAP) in 1986, interest rates were strictly regulated, with ceilings placed on lending and deposit rates in an effort to stimulate investment and guide the allocation of credit to priority sectors (Iyoha&Ekanem, 2002). However, this regime of financial repression was criticized for distorting resource allocation, discouraging savings, and limiting the capacity of banks to create credit efficiently (Shaw, 1973; McKinnon, 1973). With the adoption of financial liberalization policies, interest rates were deregulated in order to allow market forces to determine their levels, thereby enhancing the mobilization of savings and the efficiency of credit allocation (Obamuyi, 2009). Despite these reforms, the Nigerian economy has continued to experience mixed outcomes in terms of investment levels, credit availability, and overall economic growth (Ogun, 2012).

Theoretically, the relationship between interest rate regulation, credit creation, and economic growth is captured by the McKinnon–Shaw hypothesis, which argues that financial repression through interest rate controls reduces savings mobilization and hinders efficient allocation of credit, thereby constraining growth (McKinnon, 1973; Shaw, 1973). On the other hand, proponents of Keynesian economics emphasize that lower interest rates can stimulate borrowing and investment, which are vital drivers of growth (Keynes, 1936). This divergence highlights the complexity of interest rate policy in developing economies (Fry, 1995).

In the Nigerian context, concerns persist regarding whether interest rate regulation has effectively enhanced credit creation in the banking sector and whether such credit has translated into sustainable economic growth (Acha, 2011). Although the Central Bank of Nigeria (CBN) has consistently used monetary policy instruments such as the Monetary Policy Rate (MPR), lending rate ceilings, and other regulatory measures to influence interest rates, credit to the private sector remains relatively low compared to the size of the economy (CBN, 2020). The persistent challenge of inadequate financing for productive investment raises questions about the effectiveness of interest rate regulation in stimulating economic growth through enhanced credit creation (Onwumere, Okore, &Ibe, 2012).

Against this backdrop, this study seeks to empirically examine the relationship between interest rate regulation, credit creation, and economic growth in Nigeria (Udoka&Anyingang,

2012). By doing so, it will provide insights into the extent to which monetary authorities' regulatory actions on interest rates have either facilitated or constrained the intermediation function of banks and the broader goal of promoting sustainable economic growth (Oluitan, 2012).

**Objectives of the Study**

The main objective of this study is to examine the relationship between interest rate regulation, credit creation, and economic growth in Nigeria. The specific objectives are to:

1. Investigate the short-run relationship between interest rate regulation, credit creation, and economic growth in Nigeria.
2. Examine the long-run relationship between interest rate regulation, credit creation, and economic growth in Nigeria.
3. Assess the extent to which credit creation mediates the impact of interest rate regulation on economic growth in Nigeria.

**Statement of the Problem**

The link between interest rate regulation, credit creation, and economic growth has remained a subject of debate in both policy and academic circles. In Nigeria, despite decades of monetary reforms and shifts between regulated and deregulated interest rate regimes, the economy continues to grapple with inadequate credit to the private sector, high cost of borrowing, and sluggish growth outcomes. This raises questions on whether interest rate regulation has achieved its intended purpose of fostering financial intermediation and stimulating economic development.

Empirical studies on Nigeria and other developing economies have produced mixed results regarding the effect of interest rate regulation on growth. Some findings suggest that interest rate controls distort credit allocation and hinder economic performance in the long run, while others argue that regulated rates can provide stability and encourage investment, at least in the short run. These contradictions leave policymakers uncertain about the true impact of interest rate policies on growth, particularly in an economy like Nigeria that has experienced persistent financial instability.

A further concern lies in the role of credit creation by banks. Even when interest rates are adjusted, credit to the productive sectors has often remained inadequate relative to the financing needs of the economy. This suggests that the effectiveness of interest rate regulation on growth may be mediated by the extent of credit creation in the financial system. However, there is limited empirical evidence examining this mediating role in the Nigerian context. More importantly, while several studies have investigated either the short-run or the long-run relationship between interest rates and growth, very few have explicitly disentangled both dynamics within the same analytical framework. This gap makes it difficult to understand whether the effects of interest rate regulation and credit creation are merely transient or sustainable over time. Therefore, the problem this study addresses is the lack of clarity on the short-run and long-run effects of interest rate regulation on economic growth, the uncertain role of credit creation as a mediator in this relationship, and the persistent challenge of aligning monetary policy objectives with Nigeria's development goals.

## Literature Review

### Conceptual Review

#### Interest Rate Regulation

Interest rate regulation refers to the deliberate control of interest rates by monetary authorities through policy instruments such as the Monetary Policy Rate (MPR), interest rate ceilings, and directed lending policies (Acha, 2011). It is often applied to influence borrowing, savings, investment decisions, and overall macroeconomic stability (Obamuyi, 2009). In Nigeria, interest rate policy has evolved from a highly regulated regime prior to the Structural Adjustment Programme (SAP) of 1986, to a more liberalized framework where market forces determine rates (Iyoha&Ekanem, 2002). Advocates of regulation argue that controlled interest rates enhance access to credit, protect priority sectors, and stabilize financial markets (CBN, 2019). Conversely, critics note that excessive regulation often results in financial repression by discouraging savings, reducing the volume of loanable funds, and misallocating resources (McKinnon, 1973; Shaw, 1973).

#### Credit Creation

Credit creation refers to the ability of commercial banks to extend credit beyond the actual deposits received, thereby creating new purchasing power in the economy (Gurley & Shaw, 1960). By granting loans and advances, banks stimulate investment, production, and consumption (Schumpeter, 1911). The volume of credit created is determined by factors such as interest rates, monetary policy directives, banking regulations, and the risk appetite of financial institutions (Oluitan, 2012). In Nigeria, credit to the private sector has persistently remained low relative to GDP compared with other emerging economies (CBN, 2020). This gap highlights structural weaknesses in the financial sector and raises concerns about the banking system's role in driving growth (Onwumere, Okore, &Ibe, 2012).

#### Economic Growth

Economic growth is a sustained increase in the productive capacity of an economy, typically measured by Gross Domestic Product (GDP) (Levine, 2005). It is driven by factors such as capital formation, technological progress, labor productivity, and institutional quality (Keynes, 1936; Solow, 1956). In Nigeria, economic growth has historically been volatile, largely influenced by oil price shocks, macroeconomic instability, and inadequate access to credit for productive investment (Udoka&Anyingang, 2012). This volatility underscores the importance of a stable and efficient financial sector in supporting sustainable growth (Ogun, 2012).

#### Link between Interest Rate Regulation, Credit Creation, and Economic Growth

The interaction between interest rate regulation, credit creation, and economic growth has been widely discussed in economic literature because of their critical role in shaping financial intermediation and macroeconomic outcomes. Interest rate regulation determines the cost of borrowing and the return on savings, thereby influencing the flow of funds within the financial system. When interest rates are excessively regulated or fixed at artificially low levels, financial institutions may face disincentives to mobilize savings, which reduces the pool of loanable funds available for credit creation (McKinnon, 1973; Shaw, 1973). In contrast, liberalized

interest rates are argued to encourage savings mobilization and efficient allocation of resources, thus fostering higher credit availability and, ultimately, economic growth (Fry, 1995; Akinlo&Akinlo, 2009).

Credit creation plays a mediating role in this relationship because it is through the expansion of credit that the financial system channels funds to the productive sectors of the economy. If banks are unable or unwilling to create credit, even favorable interest rate policies may fail to translate into improved economic performance (Nzotta&Okereke, 2009). In Nigeria, the banking sector's ability to extend credit to the private sector has often been constrained by high lending rates, weak regulatory frameworks, and high non-performing loan ratios, which limit the transmission of monetary policy into real sector growth (Sanusi, 2012; Adegbite&Adedipe, 2020).

**Theoretical review**

**Theoretical Linkage between Interest Rate Regulation, Credit Creation, and Economic Growth**

The relationship between interest rate regulation, credit creation, and economic growth has been a central subject of debate in development economics and finance literature. Theoretically, interest rate regulation influences the efficiency of financial intermediation and the capacity of banks to mobilize savings, while credit creation acts as the transmission channel through which financial policies affect the real economy. Economic growth outcomes are therefore shaped not only by the direction of interest rate policies but also by the extent to which banks are able to transform mobilized savings into productive investments (McKinnon, 1973; Shaw, 1973).

Interest rate regulation, often implemented through ceilings or administrative controls, is intended to lower borrowing costs and stimulate investment. In the short run, such regulation can reduce financing costs for firms and households, potentially encouraging higher levels of consumption and investment. However, the McKinnon–Shaw hypothesis posits that prolonged regulation generates financial repression by reducing the real returns to savers, thereby discouraging savings and constraining the pool of loanable funds available to banks (McKinnon, 1973; Shaw, 1973). When banks face deposit constraints, their ability to expand credit creation diminishes, leading to inefficient allocation of financial resources and limited support for long-term growth (Fry, 1995).

Credit creation serves as the crucial intermediary between interest rate regulation and growth outcomes. Banks play a dual role by mobilizing savings and channeling them into investment loans for households, enterprises, and government projects. Robust credit creation enables the financing of capital accumulation, technological innovation, and entrepreneurial activities, which are essential drivers of economic expansion (Levine, 1997). Conversely, when credit creation is restricted—either due to low deposit mobilization caused by repressed interest rates or due to excessive regulatory constraints—the capacity of the financial system to stimulate productive investment becomes weakened (Ikhide&Alawode, 2001).

The long-run implications of this relationship are best understood within the framework of Endogenous Growth Theory. This theory emphasizes the role of financial intermediation in sustaining economic growth through continuous investment in innovation, human capital, and technological advancement (Romer, 1986; Lucas, 1988). From this perspective, credit creation is not merely a short-term liquidity mechanism but a long-term growth driver. By channeling resources into sectors that enhance productivity, credit creation establishes a virtuous cycle of savings, investment, and innovation that fuels sustainable growth (Pagano, 1993). However, where interest rate regulation undermines the efficiency of credit creation, the long-run growth potential of the economy is compromised.

Therefore, the theoretical linkage among the three variables can be summarized as follows: interest rate regulation shapes the behavior of savers and lenders, which in turn determines the volume of credit creation. Credit creation mediates this relationship by allocating financial resources to productive sectors of the economy. Ultimately, economic growth outcomes depend on the efficiency of this intermediation process, with short-run benefits of regulation possible but long-run sustainability requiring liberalized and competitive financial systems. In the Nigerian context, where interest rate policies have historically oscillated between strict regulation and partial liberalization, the extent of credit creation determines whether interest rate regulation translates into growth-promoting or growth-retarding outcomes.

**Empirical Review**

Empirical studies on the nexus among interest rate regulation, credit creation, and economic growth have produced mixed evidence across time and regions. In Nigeria, several works have investigated the growth implications of interest rate regulation. For example, Atoyebi et al. (2019) found that deregulated interest rates stimulated investment and output in the long run, though the short-run effects were weak. Similarly, Nwoko et al. (2020) reported that restrictive interest rate ceilings depressed financial intermediation and slowed economic performance. In contrast, Musa and Isah (2021) observed that liberalization without institutional safeguards raised borrowing costs, constrained investment, and weakened economic growth, suggesting that the outcomes of interest rate regulation are context-dependent.

The role of credit creation in stimulating growth has also attracted scholarly attention. Okonkwo and Obi (2018) established that credit to the private sector significantly drives growth in Nigeria, with causality flowing from credit creation to GDP growth. Etale (2020), however, contended that rising credit levels had not translated to growth because much of the lending was directed toward unproductive activities. Olayemi (2021) reinforced this argument by showing that sectoral allocation of credit matters: credit directed to agriculture and manufacturing enhanced output, whereas lending to services and consumption-related sectors did not significantly boost growth.

Recent studies have emphasized the joint role of interest rates and credit creation. Adegbite and Lawal (2019) found that interest rate liberalization improved banks' ability to extend credit, which positively impacted economic growth. In line with this, Ibe and Chukwu (2022), using an ARDL approach, revealed a significant long-run link among interest rates, credit

creation, and GDP, with credit creation acting as a mediating channel. On the contrary, Eze and Okoro (2020) showed that while the long-run relationship was strong, short-run effects were insignificant due to high lending rates and limited access to credit.

Cross-country evidence further substantiates these findings. Adusei (2021), examining Sub-Saharan Africa, demonstrated that credit creation transmits the effects of interest rate policies to growth, though institutional quality shapes the magnitude of the impact. Gyamfi and Boateng (2022), focusing on Ghana, found that liberalized interest rates promoted savings and credit supply but weak credit risk management hindered growth transmission. More recently, Chen and Xu (2023), analyzing Asian economies, confirmed that interest rate deregulation spurred bank credit creation, which in turn enhanced growth, but the effects were conditional on financial stability. Likewise, Bello and Adeoye (2024) provided Nigerian evidence that while credit creation enhances growth in the long run, short-run results remain fragile due to macroeconomic volatility and inflationary pressures.

From the reviewed studies, three key insights emerge. First, interest rate regulation influences growth indirectly by shaping the volume and allocation of credit. Second, credit creation is a critical driver of growth, though its effectiveness depends on sectoral allocation and institutional quality. Third, while most studies confirm strong long-run effects, short-run effects remain weak or inconsistent. Nonetheless, empirical gaps persist, especially regarding the mediating role of credit creation in the interest rate–growth relationship in Nigeria. Addressing this gap is the primary motivation for the present study, which investigates both short-run and long-run linkages while explicitly modeling credit creation as a mediating variable.

**Data and Methodology**

This section presents the methodological framework of the study, covering model specification, variable identification and data sources, estimation techniques, and evaluation procedures. The research seeks to investigate the extent to which interest rate regulation and credit creation influence the level of economic growth in Nigeria. Given that the study employs annual time series data, the Autoregressive Distributed Lag (ARDL) technique will be utilized to estimate both the short-run and long-run parameters of the model. To facilitate the empirical analysis, relevant data such as Real Gross Domestic Product (RGDP), interest rate regulation (proxied by monetary policy rate and prime lending rate), credit creation (measured by domestic credit to the private sector and commercial bank credit), as well as control variables including inflation rate, gross capital formation, and trade openness, will be sourced primarily from the Central Bank of Nigeria (CBN) Statistical Bulletin, the World Bank World Development Indicators (WDI), and the National Bureau of Statistics (NBS).

**Model Specification**

In line with theoretical and empirical foundations of financial sector–growth nexus (McKinnon, 1973; Shaw, 1973), this study adapts a modified model to examine the dynamic relationship between interest rate regulation, credit creation, and economic growth in Nigeria. Previous works such as Oji-Okoro (2011) examined the agricultural sector's contribution to

economic development using GDP as the dependent variable and variables such as domestic savings, government expenditure, and foreign direct investment as explanatory variables. Drawing inspiration from such models, but adjusted to reflect the core focus of this research, the functional relationship for this study is specified as:

$Y = f(X_1, X_2, X_3, X_4)$

Thus, the model is expressed functionally as:
RGDP = f(INTR, CCR, EXCH)

Where:
RGDP = Real Gross Domestic Product (proxy for economic growth)
INTR = Interest rate (proxy for interest rate regulation)
M3_GDP = Broad money supply as a percentage of GDP (proxy for credit creation)
EXCH = Exchange rate (control variable reflecting external competitiveness)

The econometric form of the model is specified as:
$RGDP_t = \beta_0 + \beta_1 INTR_t + \beta_2 M3\_GDP_t + \beta_3 EXCH_t + \mu_t$

To address possible issues of heteroskedasticity and to facilitate interpretation of elasticities, the model is further transformed into logarithmic form:
$\ln RGDP_t = \beta_0 + \beta_1 INTR_t + \beta_2 \ln M3\_GDP_t + \beta_3 EXCH_t + \mu_t$

Where:
$\beta_0$ = Constant term
$\beta_1 - \beta_3$ = Parameters to be estimated
$\mu_t$ = Stochastic error term

**Variable Identification**
Real Gross Domestic Product (RGDP) is employed as the dependent variable in this study because it serves as a broad indicator of Nigeria's economic performance and growth level. Interest rate (INTR) is included as one of the explanatory variables since fluctuations in interest rates can influence the cost of borrowing, investment decisions, and ultimately the pace of economic activity. Broad money supply as a percentage of GDP (M3_GDP) is also adopted as an independent variable, serving as a proxy for credit creation and financial deepening, which are expected to impact economic growth through improved liquidity and access to finance. Exchange rate (EXCH) is incorporated as a control variable to capture the effect of external sector dynamics and currency fluctuations on Nigeria's economic growth, given the country's import dependence and exposure to global shocks. Together, these variables are expected to provide a comprehensive framework for examining the short-run and long-run effects of financial sector dynamics on economic growth in Nigeria.

**Estimation Technique**

In line with the time series nature of the data used in this study, the Autoregressive Distributed Lag (ARDL) approach will be employed to estimate the parameters of the model specified earlier. The ARDL method is suitable for this research because it is flexible in handling variables that are integrated of different orders, specifically I(0) and I(1), and it provides both short-run and long-run dynamics within a single framework. This estimation technique has been widely applied in empirical studies on finance–growth relationships and has yielded satisfactory results.

The specified model shall be subjected to preliminary diagnostic tests, including unit root tests to establish the order of integration of the variables (RGDP, INTR, M3_GDP, and EXCH), as well as cointegration tests to confirm the existence of a long-run relationship. After estimation, post-diagnostic tests such as heteroskedasticity, serial correlation, and stability tests will be conducted to ensure the robustness and reliability of the results. The evaluation of the estimated coefficients will rely on statistical significance tests to determine whether the explanatory variables significantly influence Nigeria's economic growth.

**Table 1:** Descriptive Stats

| | EXCH | INTR | M3_GDP | RGDP |
|---|---|---|---|---|
| Mean | 127.756 | 2.464188 | 17.335 | 4.121 |
| Median | 123.193 | 4.416240 | 14.880 | 3.489 |
| Maximum | 425.979 | 18.18000 | 27.378 | 7.577 |
| Minimum | 0.893 | -31.45257 | 9.063 | 1.717 |
| Std. Dev. | 119.000 | 9.684318 | 6.129 | 2.092 |
| Skewness | 0.931 | -1.214187 | 0.282 | 0.395 |
| Kurtosis | 3.066 | 5.452174 | 1.396 | 1.527 |
| Jarque-Bera | 5.501 | 18.85775 | 4.575 | 4.423 |
| Probability | 0.063 | 0.000080 | 0.101 | 0.109 |
| Sum | 4854.75 | 93.63915 | 658.739 | 1.566 |
| Sum Sq. Dev. | 523957.7 | 3470.082 | 1390.296 | 1.618 |
| Observations | 38 | 38 | 38 | 38 |

Table 1 present the descriptive statistics of all the variables as well as the proxy variables employed for the empirical analysis of the study. Among the variables, real GDP, interest rate, exchange rate and Broad money supply. The mean dispersion otherwise known as the dispersion between the actual and expected value is captured by the standard deviation (Std.Dev.). All other variables to a large extent revolve around their mean values. On the standard normal distribution of most of the variable follows the standard normal distribution curve. With Jarque-Bera statistic well above the 5% significance value.

**Table 2:** ADF Unit Root Test Result

| Variable | t-statistic | Probability | Order of cointegration |
|---|---|---|---|
| **RGDP** | -3.317198 | 0.0021 | I(1) |
| **M3_GDP** | -4.958000 | 0.0003 | I(1) |
| **INTR** | -4.066938 | 0.0146 | I(0) |
| **INFL** | -3.216831 | 0.0267 | I(0) |

The unit root result present in table 2 indicated that all the variables are stationary of either at level or after first differencing. Given the unit root test result in table 4.2 indicated that the variable are combination of *I(0)* and *I(1)* variables, that is, they are all integrated of order one and zero.With the dependent variable stationary of at the difference and the rest are a combination of order (I) and (0) Thus, with these findings, autoregressive distributed lag (ARDL) model becomes very much appropriate as it is most efficient in finite sample. In view of this, it has become imperative to subject our models to cointegration test with the aid of ARDL bounds test approach of Pesaran, Shin and Smith (2001).

**Table 3:** ARDL Bound Cointegration Test.

| Test Statistic | Value | Significance | I(0) | I(1) |
|---|---|---|---|---|
| F-statistic | 5.309989 | 10% | 2.37 | 3.2 |
| K | 3 | 5% | 2.79 | 3.67 |
| | | 2.5% | 3.15 | 4.08 |
| | | 1% | 3.65 | 4.66 |

Table 3 displayed the results of the ARDL bound test conducted for the study model. The benchmark criterion is to compare the F-statistic with the corresponding critical lower I(0) and upper I(1) bounds specifically at 5% significance level. The result indicates that the F-statistic is 5.309 is larger than the critical I(1) bound of 3.67 at the 5% level. Thus, this result implied that there is evidence of long run equilibrium relationship among the variables hence the restricted Error correction Mechanism (ECM).

**Table 4:** Short-run ARDL Estimation Result

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 2.36E+11 | 3.55E+11 | 0.000000 | 0.0000 |
| @TREND | 1.65E+11 | 3.55E+10 | 0.000000 | 0.0000 |
| D(RGDP(-1)) | 0.283243 | 0.125927 | 2.249261 | 0.0329 |
| D(EXCH) | -3.08E+10 | 9.65E+09 | 0.000000 | 0.0000 |
| D(M3_GDP) | -8.76E+10 | 7.09E+10 | 0.000000 | 0.0000 |
| CointEq(-1)* | -0.116654 | 0.030776 | -3.790373 | 0.0008 |
| R-squared | 0.638390 | Mean dependent var | | 1.63E+12 |
| Adjusted R-squared | 0.578122 | S.D. dependent var | | 1.49E+12 |
| S.E. of regression | 9.69E+11 | Akaike info criterion | | 58.18848 |
| Sum squared resid | 2.82E+25 | Schwarz criterion | | 58.45240 |
| Log likelihood | -1041.393 | Hannan-Quinn criter. | | 58.28060 |
| F-statistic | 10.59248 | Durbin-Watson stat | | 2.184116 |
| Prob(F-statistic) | 0.000006 | | | |

**Table 5:** Long-run ARDL Estimation Result

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 6.30E+11 | 6.95E+11 | 0.000000 | 0.0000 |
| RGDP(-1)* | -0.065918 | 0.037656 | -1.750508 | 0.0910 |
| EXCH(-1) | 7.88E+09 | 4.35E+09 | 0.000000 | 0.0000 |
| INTR** | 5.72E+10 | 2.31E+10 | 0.000000 | 0.0000 |
| M3_GDP(-1) | 1.36E+11 | 8.17E+10 | 0.000000 | 0.0000 |
| D(RGDP(-1)) | 0.383261 | 0.154457 | 2.481351 | 0.0194 |
| D(EXCH) | -2.77E+10 | 1.10E+10 | 0.000000 | 0.0000 |
| D(M3_GDP) | -9.32E+10 | 9.44E+10 | 0.000000 | 0.0000 |

The empirical estimation results of the ARDL model for short-run and long-run dynamics are presented in Tables 4 and 5, respectively. The results in Table 4 indicate that, in the short run, the coefficient of money supply is negative but significant, the findings demonstrate that this impact remains both negative and statistically significant in the long run. Conversely, Table 5 reveals that interest rate is positive and statistically significant on the long run, with exchange displaying same characteristic too. Furthermore, the long-run estimation results in Table 5 indicate that interest rate regulation has a positive and statistically significant effect on economic growth in Nigeria, underscoring the need for further examination of the efficiency and the importance of interest rate regulation.

**Table 6.**

| Heteroskedasticity Test: Breusch-Pagan-Godfrey | | | |
|---|---|---|---|
| F-statistic | 1.230343 | Prob. F(7,28) | 0.3197 |
| Obs*R-squared | 8.468344 | Prob. Chi-Square(7) | 0.2931 |
| Scaled explained SS | 3.573802 | Prob. Chi-Square(7) | 0.8273 |

The heteroscedasticity test checks whether the variance of the errors (residuals) remains constant across observations**.** If heteroscedasticity is present, it means that some parts of the dataset have more variability than others, which can affect the efficiency of the regression estimates. All probability values (p-values) are greater than 0.05, indicating that we fail to reject the null hypothesis of homoscedasticity (constant variance). This suggests that there is no heteroscedasticity in the model, meaning the error terms are evenly distributed and do not depend on the size of the independent variables. No evidence of heteroscedasticity implies that the standard errors of the estimates are reliable, making hypothesis testing and confidence intervals valid. Since heteroscedasticity is not present, the regression model produces efficient and unbiased estimates. This ensures that policy recommendations or economic inferences drawn from the results are statistically sound.

**Table 7.**

| Breusch-Godfrey Serial Correlation LM Test: | | | |
|---|---|---|---|
| F-statistic | 1.393569 | Prob. F(2,26) | 0.2661 |
| Obs*R-squared | 3.485479 | Prob. Chi-Square(2) | 0.1750 |

The serial correlation test examines whether the residuals (errors) of the regression model are independent or whether there is an autocorrelation issue, which could affect the validity of the estimates. The probability values (p-values) for both tests are greater than 0.05, indicating that we fail to reject the null hypothesis of no serial correlation at the 5% significance level. This suggests that the residuals in the model are not autocorrelated, meaning that past errors do not systematically influence future errors. No evidence of serial correlation implies that the model is well-specified in terms of its error structure, enhancing the reliability of the coefficient estimates and hypothesis testing.

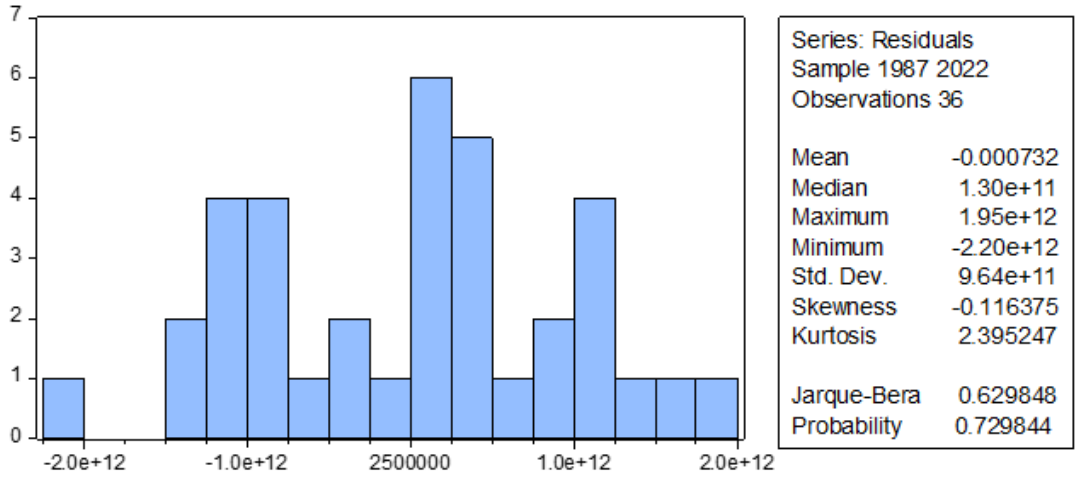


**Figure 1.**

The histogram and statistics provided assess whether the residuals of the model follow a normal distribution. The Jarque-Bera probability (0.4458) is greater than 0.05**,** meaning we fail to reject the null hypothesis of normality. This suggests that the residuals are normally distributed**,** satisfying one of the key assumptions of regression models. The skewness and kurtosisvalues are close to those expected for a normal distribution. The histogram also visually supports normality, showing a bell-shaped distribution without extreme outliers. The model passes the normality test, implying that standard inferential techniques such as t-tests and confidence intervals are valid for interpreting the regression coefficients. No corrective measures are required.

**Summary of Findings**

This study investigated the impact of interest rate regulation and credit creation on economic growth in Nigeria using the ARDL framework, covering both short-run and long-run dynamics. The long-run results revealed that interest rate regulation has a positive and significant effect on real GDP, implying that appropriate regulation of lending and deposit rates enhances financial intermediation and promotes economic expansion. Similarly, credit creation (proxied by M3/GDP) exerts a positive influence on growth in the long run, underscoring the role of financial deepening and broad money supply in driving output performance. Exchange rate stability also exhibited a positive long-run effect, indicating that a stable currency environment supports credit allocation and growth-enhancing activities.

In the short run, however, the results differ. Credit creation and exchange rate changes exerted negative effects on growth, suggesting that fluctuations in monetary aggregates and short-term currency instability hinder productive investment and disrupt growth momentum. On the other hand, the lagged real GDP remained positive and significant, demonstrating growth persistence. The error correction term was negative and significant at -0.116, confirming long-run convergence. This implies that about 11.6% of disequilibrium in the system is corrected annually, showing that the Nigerian economy adjusts gradually towards equilibrium following shocks. With an R-squared of 0.63, the model demonstrates a good explanatory power.

## Conclusion

The study concludes that interest rate regulation and credit creation play crucial roles in shaping Nigeria's economic growth trajectory. While in the long run, effective regulation of interest rates and expansion of credit through the financial system enhance growth, short-run instability in credit creation and exchange rate undermines growth performance. The findings highlight the dual nature of financial policy: regulation and financial deepening sustain long-term growth, but short-run volatility poses significant risks. Thus, Nigeria's growth prospects depend on the capacity of monetary authorities to balance regulation, ensure credit stability, and minimize short-term disruptions in the financial system.

## Policy Recommendations

1. Strengthen Interest Rate Regulation: Since interest rate regulation supports growth in the long run, monetary authorities should continue adopting policies that ensure rates remain at levels conducive to borrowing for productive investment without discouraging savings.
2. Promote Credit Creation for Productive Sectors: Given the positive role of credit creation in the long run, financial institutions should be encouraged to channel credit towards sectors with strong growth multipliers, such as agriculture, manufacturing, and SMEs, rather than non-productive uses.
3. Mitigate Short-Run Instability in Credit and Exchange Rate: The negative short-run effects suggest the need for stronger prudential regulation, enhanced monetary supervision, and policies to stabilize exchange rate volatility, which undermines growth in the short run.
4. Enhance Monetary–Fiscal Policy Coordination: Effective synergy between fiscal and monetary authorities will ensure that interest rate regulation and credit expansion policies align with fiscal objectives to foster macroeconomic stability.
5. Deepen Financial Sector Reforms: To accelerate convergence to equilibrium, policies that improve institutional capacity, strengthen financial markets, and promote transparency in credit allocation should be implemented.

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